AENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A method ~~of generating a CRC code~~ to determine a value of a V-bit variable field ~~value for equalizing~~ so that a CRC value~~, which is~~ calculated based on a data field including the variable field ~~value of a variable field included in a data field~~ according to a generator polynomial[[,]] is equal to a desired CRC value, comprising the steps of:

establishing a temporary variable field value;

reading from a conversion table all corrective values which correspond to a bit number where a bit value of said temporary variable field value is 1, ~~from a conversion table which stores therein corrective values for indicating a bit to be inverted in the variable field value as "1" corresponding to a predetermined bit number,~~ and exclusive-ORing the read corrective values to calculate a first calculated value, wherein each said corrective value in the conversion table corresponds to a given bit number in the variable field, each said corrective value identifying those bits in the CRC calculated based on the data field whose value is changed when a single bit in the given bit number in the variable field is changed; and

determining, when said first calculated value corresponds to the desired CRC value, said temporary variable field value to be a variable field value for obtaining the desired CRC value.

2. (currently amended) The method according to claim 1, wherein ~~said conversion table comprises a table which stores data of~~ each of the corrective values ~~corresponding~~ corresponds to a bit number N, ~~which is~~ each of the corrective values being produced by exclusive-ORing a CRC value ~~where~~ of the data field for which the variable field value is 0 and a CRC value ~~where~~ of the data field for which the variable field value is 2^N, said table having a high-order address represented by a bit length of the data field and a low-order address represented by the bit number N, N representing an integer equal to or greater than 0 and less than the bit length of the variable field.

3. (currently amended) The method according to claim 1, wherein ~~said conversion table comprises a table which stores data of~~ each of the corrective values ~~corresponding~~ corresponds to a bit number N, ~~which is~~ each of the corrective values being produced by exclusive-ORing a CRC value ~~where~~ of the data field for which the variable field value is 0 and a CRC value ~~where~~ of the data field for which the variable field value is 2^N, said table having a high-order address represented by the generator polynomial for the CRC code and a bit length of the data field and a low-order address represented by the bit number N, N

representing an integer equal to or greater than 0 and less than the bit length of the variable field.

4. (currently amended) The method according to claim 1, wherein said step of determining said temporary variable field value comprises the steps of:

comparing the first calculated value with a second calculated value, the second calculated value being ~~which is~~ calculated in advance by exclusive-ORing a CRC value ~~where~~ of the data field for which the variable field value is 0 and the desired CRC value~~, with a first calculated value~~; and

determining a temporary variable field value corresponding to said first calculated value as a variable field value for obtaining said desired CRC value if said first calculated value and said second calculated value agree with each other.

5. (currently amended) The method according to claim 4, wherein ~~said conversion table comprises a table which stores data of~~ each of the corrective values ~~corresponding~~ corresponds to a bit number N, ~~which is~~ each of the corrective values being produced by exclusive-ORing a CRC value ~~where~~ of the data field for which the variable field value is 0 and a CRC value ~~where~~ of the data field for which the variable field value is 2^N, said table having a high-order address represented by a bit length of the data field and a low-order address represented by the bit

number N, N representing an integer equal to or greater than 0 and less than the bit length of the variable field.

6. (currently amended) The method according to claim 4, wherein ~~said conversion table comprises a table which stores data of~~ each of the corrective values ~~corresponding~~ corresponds to a bit number N, ~~which is~~ each of the corrective values being produced by exclusive-ORing a CRC value ~~where~~ of the data field for which the variable field value is 0 and a CRC value ~~where~~ of the data field for which the variable field value is 2^N, said table having a high-order address represented by the generator polynomial for the CRC code and a bit length of the data field and a low-order address represented by the bit number N, N representing an integer equal to or greater than 0 and less than the bit length of the variable field.

7. (original) A method of generating a CRC code to determine a variable field value for equalizing a CRC value, which is calculated based on data including the variable field value of a variable field included in a data field according to a generator polynomial, to a desired CRC value, comprising the steps of:

establishing a temporary variable field value;

reading a first calculated value corresponding to said temporary variable field value from a conversion table which stores therein first calculated values corresponding to a variable field value X and produced by exclusive-ORing a CRC

value where the variable field value is 0 and a CRC value where the variable field value is X, where X represents an integer equal to or greater than 1 and equal to or less than $2^K - 1$ where K represents a bit length of the variable field; and

determining, when the read first calculated value corresponds to the desired CRC value, said temporary variable field value to be a variable field value for obtaining the desired CRC value.

8. (original) The method according to claim 7, wherein said conversion table comprises a table which stores data of said first calculated values corresponding to said variable field value X and has a high-order address represented by a bit length of the data field and a low-order address represented by the variable field value X.

9. (original) The method according to claim 7, wherein said conversion table comprises a table which stores data of said first calculated values corresponding to said variable field value X and has a high-order address represented by the generator polynomial and a bit length of the data field and a low-order address represented by the variable field value X.

10. (original) The method according to claim 7, wherein said step of determining said temporary variable field value comprises the steps of:

comparing a second calculated value which is calculated in advance by exclusive-ORing a CRC value where the variable

field value is 0 and the desired CRC value, with a first calculated value; and

determining a temporary variable field value corresponding to said first calculated value as a variable field value for obtaining said desired CRC value if said first calculated value and said second calculated value agree with each other.

11. (original) The method according to claim 10, wherein said conversion table comprises a table which stores data of said first calculated values corresponding to said variable field value X and has a high-order address represented by a bit length of the data field and a low-order address represented by the variable field value X.

12. (original) The method according to claim 10, wherein said conversion table comprises a table which stores data of said first calculated values corresponding to said variable field value X and has a high-order address represented by the generator polynomial and a bit length of the data field and a low-order address represented by the variable field value X.

13. (original) A method of generating a CRC code to determine a variable field value for equalizing a CRC value, which is calculated based on data including the variable field value of a variable field included in a data field according to a generator polynomial, to a desired CRC value, comprising the steps of:

calculating a first calculated value by exclusive-ORing a CRC value where the variable field value is 0 and the desired CRC value; and

reading a variable field value corresponding to a second calculated value equal to said first calculated value, as a variable field value for obtaining said desired CRC value, from a conversion table which stores therein variable field values X corresponding to second calculated values, wherein each of said second calculated values is produced by exclusive-ORing a CRC value where the variable field value is 0 and a CRC value where the variable field value is X, where X represents an integer equal to or greater than 1 and equal to or less than $2^K - 1$ where K represents a bit length of the variable field.

14. (original) The method according to claim 13, wherein said conversion table comprises a table which stores data of said variable field values corresponding to said second calculated values and has a high-order address represented by a bit length of the data field and a low-order address represented by said second calculated values.

15. (original) The method according to claim 13, wherein said conversion table comprises a table which stores data of said variable field values corresponding to said second calculated values and has a high-order address represented by the generator polynomial and a bit length of the data field and a low-order address represented by said second calculated values.

16. (original) A method of generating data for forming a desired CRC code determining a variable field value of a variable field included in a data field so that a CRC value which is calculated based on data including the variable field value according to a generator polynomial, is equalized to said desired CRC value, the method comprising:

a first step of determining a first bit position data which is a position data indicating a bit at which a bit value is different between a fundamental CRC value and said desired CRC value, said fundamental CRC value is a CRC value which is obtained when the variable field value is set to "0";

a second step of generating a conversion table which stores a second bit position data corresponding to at least a specific bit number, said second bit position data being a position data indicating a bit at which a bit value is different between said fundamental CRC value and a CRC value which is obtained when a bit value of a bit at said specific bit number in the variable field is set to "1"; and

a third step of determining, when a data obtained by combining the second bit position data using said conversion table agrees with said first bit position data, a variable field value having bit of "1" only at a bit number corresponding to said second bit position data which is used in the combining to be a variable field value for obtaining the desired CRC value.

17. (original) The method according to claim 16, wherein:

said second step comprises the steps of:

obtaining as a corrective value for each bit number a position data of a bit at which the CRC value which is obtained when a bit value of a bit at said specific bit number in the variable field is set to "1" differs from a CRC value in a case of the variable field value of "0," and

generating the conversion table which stores each corrective value corresponding to at least the bit number, and

said third step comprises the steps of:

sequentially varying the variable field value to read the corrective value which corresponds to a bit number at which said varied variable field value is "1,"

when a number of bits of "1" at a same bit number where all the read corrective value are all "1" is an even number, obtaining a data in which only a bit corresponding to said same bit number is set to "1", and

determining, when said data agrees with said first bit position data, a variable field value corresponding to said data to be the variable field value for obtaining the desired CRC value.

18. (original) A method of generating data for forming a desired CRC code determining a variable field value of a variable field included in a data field so that a CRC value which

is calculated based on data including the variable field value according to a generator polynomial, is equalized to said desired CRC value, the method comprising:

a first step of determining a first bit position data which is a position data indicating a bit at which a bit value is different between a fundamental CRC value and said desired CRC value, said fundamental CRC value is a CRC value which is obtained when the variable field value is set to "0";

a second step of obtaining for each variable field value a second bit position data, which is a position data of a bit at which a CRC value in a case of the variable field value being varied differs from a CRC value in a case of the variable field value of "0", to generate a conversion table which stores each second bit position data corresponding to at least said varied variable field value; and

a third step of sequentially varying the variable field value to read the second bit position data corresponding to said varied variable field value, and determining, when the read second position data agrees with said first bit position data, a variable field value corresponding to the read second bit position data to be a variable field value for obtaining the desired CRC value.

19. (new) A method to determine a value of a V-bit variable field so that a CRC value calculated based on a data field including the variable field according to a generator

polynomial is equal to a desired CRC value, comprising the steps of:

a) determining a first calculated value that identifies those bit positions in C_0 that differ from bits in the same position in C_T, where C_0 is a CRC of the data field when the variable field is set to 0, and C_T is the desired CRC;

b) providing a conversion table of a plurality of corrective values, each said corrective value corresponding to a given bit position in the variable field, each said corrective value indicating how a CRC generated from the data field with the variable field set to 0 except for the given bit position compares to C_0;

c) determining a test variable field value;

d) determining a second calculated value by reading from the conversion table all of the corrective values for which the given bit position corresponds to a bit position of the test variable field value set to 1, and performing an exclusive-OR of all the read corrective values to calculate a first calculated value if there are a plurality of such read corrective values, and if only one corrective value is read, setting that corrective value as the second calculated value;

e) comparing the first calculated value to the second calculated value;

f) if a condition of the first and second calculated values being equal is met, setting the current test variable

field value as the variable field value in the data field, and if the condition is not met, setting the test variable field value to a different value, and repeating steps d) - f) until the condition is met.

20. (new) The method of claim 19, wherein step a) comprises performing an exclusive-OR of C_0 and C_T.

21. (new) The method of claim 20, wherein each said corrective value is calculated as an exclusive-OR of:

1) C_0, and

2) CRC of the data field when the given bit position of the variable field is set to 1 and all other bit positions of the variable field are set to 0.